The Historical Context, Current Development and Future Challenges of Distance Education in Indonesia

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Abstract

This paper addresses the historical context, current development and future challenges of distance education in helping to create a knowledge-based society in Indonesia. The existing conditions of Indonesia relating to the geography, demography, socio-economy, and culture of its society, as well as the availability of technology have prompted the use of distance education as a realistic choice in providing access to quality education at different levels and in various kinds of educational endeavour. Distance education in Indonesia has been applied in diverse sectors of education and training. Its development has been challenged by advances in the use of information and communication technology, in a society in which computer literacy, access and skills still need to be improved significantly.

Distance education in Indonesia has to consider the use of appropriate technology accessible by distance learners who live in various parts of the country with different conditions and different access to technology. Distance education stakeholders are becoming more critical about the quality of services of distance education provision. Distance education in Indonesia needs to adapt to new challenges, changes in the society and new opportunities in the use of information and communication technology and learn from best practices of distance education in other contexts so that it can be used more and more efficiently and effectively.

Historical context and need for distance education in Indonesia

When Indonesia proclaimed its independence on the 17th of August, 1945, most of the Indonesian people were illiterate. This condition made it difficult for the newly established Republic of Indonesia to build a nation. It was realized that education was an important component to free Indonesian people from ignorance and intellectual impoverishment as the result of colonialism. Even though the Indonesian Constitution of 1945 clearly stated that education is a basic right of every citizen, providing access, equity and participation in education for all Indonesian citizens has not been easy. As an archipelago of more than 13,000 islands and a limited communication and transportation infrastructure, Indonesia was and is challenged to improve the quality of its 220 million human resources.

The establishment and development of distance education in Indonesia is an attempt to meet the national education needs, influenced by current international trends of an increased use of distance education. Various factors relating to the geography, demography, socio-economy, culture of its society, and the availability of technology have stimulated the development of distance education to improve educational access and equality of opportunity. Distance education has been used in formal as well as in

nonformal education, in academic as well as in professional education, and in primary, secondary and higher education. Distance education has also been used beyond the formal education sector, such as in agricultural extension, family planning education, vocational on-the-job training, and continuing professional education. Distance education in Indonesia has evolved, starting from the use of print-based correspondence material in the early fifties, through multi-media material, to the use of information and communication technology (ICT) in the first years of the twenty-first century.

The historical origin of distance education in Indonesia has its roots in the establishment of correspondence teacher training in 1950 in Bandung, West Java. In 1951, more distance education was introduced through school broadcasting in West Java, designed for those ex-service men and women whose education had been disrupted during the war of independence. An extensive development in the use of distance education for teacher training was pioneered by the Department of Education and Culture in 1955 (Setijadi, 1987). This system was mostly based on correspondence instruction aimed at upgrading school teachers.

Further intensive use of distance education started in the 1970s, when the Indonesian government had, due to the oil-boom revenues, the opportunity to finance the development of the education sector. This enabled the Government to fund initiatives involving distance education, such as a pilot project on educational broadcasting and the use of print-based non-traditional instruction for independent study at the primary level. The use of domestic satellite for communication from 1974 onwards has had positive impact on educational development, particularly distance education. In 1978, the Centre for Educational Communication and Technology was established to provide improved access to education, particularly in the primary and secondary education sectors. Also during the 1970s, five open junior high schools were established in different areas to provide schooling opportunities for those students unable to attend classroom instruction.

The decade of the 1980s was first marked by the development of the rural satellite project for health and education. Then, in 1981, a program for upgrading junior university lecturers was launched using modular instruction for independent study. This was followed by the use of satellites for distance education in eastern Indonesian universities for training junior university lecturers in 1983. The same year the government decided to make the preparation for the establishment of an open university to accommodate a huge number of high school graduates till then unable to have access to state conventional universities. The Open University "Universitas Terbuka (UT)" was established in 1984.

The 1990s was the decade of expansion of distance education in Indonesia. The introduction of the nine-year compulsory education in 1994 has had a major impact on the preparation of primary school teachers which required at least two-year training at the university level. Consequently, in-service primary school teachers, who have high-school level certificates, have to take at least two-year additional post-secondary education training offered at a distance so as to upgrade qualifications, to keep up with current developments, and to meet the needs for the establishment of a knowledge-based society. The task of upgrading these in-service teachers at a distance has been assigned to UT, as it would be impossible to train in-service teachers on-campus, leaving a huge number of primary students without teachers. This in-service teacher training at the two-year university diploma level incorporates face-to-face tutorials and the use of print and non-print media and science kits as the major learning resource for the student teachers. In

recent years, increased demand from stakeholders requires primary school teachers to have a first degree, meaning a further task for UT to upgrade in-service school teachers who have the two-year university diploma.

The beginning of the 21st century shows continued progress in distance education with advances in ICT. Traditional educational institutions are also initiating new ventures in distance education. Innovations are introduced in the use of distance education in senior secondary education through the establishment of experimental open senior high schools in a number of areas (Ibrahim, 2003). In line with the dynamic changes in social, economic, and technological development, the national education paradigm has also moved progressively towards the establishment of a competent and intelligent knowledge-based society in Indonesia (Sidi, 2001). In the higher education sector, the vision, missions, policies and strategies for future development are also directed at improving the nation's competitiveness by creating a healthy, autonomous and decentralised higher education system, in this way providing increased opportunities and improved access to the students (Brodjonegoro, 2003). These national educational policy objectives have constructive effects on the future direction of distance education.

Distance education in Indonesia has seen encouraging continuous progress in terms of innovations, initiatives and practice, and has contributed concrete results to the development of national human resources. Documentation and dissemination of innovation and research findings in distance education have been undertaken systematically in recent times. The *Indonesian Journal of Open and Distance Learning (Jurnal Pendidikan Terbuka dan Jarak Jauh)* <*http://202.159.18.43//ptjj/index.html*> has been published twice a year since the year 2000. UT has also regularly published books in order to disseminate research findings, innovations, current theories and best practices in distance education (Belawati, et al., 1999; Andriani, et al., 2003; Padmo, et al., 2003; Suparman & Zuhairi, 2004; Asandhimitra, et al., 2004; UT, 2004). These publications indicate positive signs that distance education continue to flourish, and they provide the direction and theoretical bases for practitioners in the field.

In accordance with the principle that education is the fundamental right for every citizen, the national education system has to be able to fulfil the needs of the society, provide wider opportunities and improve the participation rate of the community in education. Distance education continues to develop and constitutes a concrete effort to establish a modern knowledge-based society. Further progress in the use of distance education indicates the flexibility, strength, and prospect of distance education to attend to the educational needs of the Indonesian society. For the government, distance education is considered as an effective method to improve participation and access to education efficiently; while for the learner, especially working adults and those denied access to the face-to-face educational system, distance education is seen as a flexible and rational alternative. Supported by legal and regulatory bases, the position of distance education has been strengthened. This means that providers of distance education should continuously improve their services in order to satisfy the needs of their clients.

Use of distance education in various educational sectors

Distance education is one area of educational endeavour which has developed to become a respected pedagogical method of education. It has involved the use of a variety

of educational media, including print and non-print media, and it has expanded further along with advances in the use of ICT. Distance education has been used in various sectors of education and training, integrated into the national systems of education, and reached the desired level of recognition and esteem in relation to traditional educational alternatives (UNESCO, 2001). As mentioned before, it has been used in primary, secondary as well as tertiary levels, in formal as well as nonformal education sectors. This has indicated the flexibility and acceptability of distance education, as well as the needs of the society for distance education.

Due to its flexibility, its capability to accommodate learners unable to attend the traditional form of education, and its ability to provide high quality education for a large number of students, distance education is seen as the appropriate response to the challenge for improving the quality of human resources It has been able to serve the needs of the learner and the community well. Distance education is based on the egalitarian philosophy, in which all citizens have equal access, equity, equality of opportunity and participation in education, irrespective of their work or family commitments, geographical locations, social and economic status, and other constraints. It provides improved access and opportunities for people with constraints in access to the face-to-face educational mode. In the Indonesian context, distance education has benefited working adults, in-service teachers working in remote areas, women, as well as those people coming from the lower social-economic status.

1. Distance education in primary and secondary education. At elementary level, beginning in the 1970s, *PAMONG* system (Education for Children by Community, Parents, and Teachers) has been developed for dropout children and those who could not be accepted in regular schools. *PAMONG* was one of the examples of the implementation of distance education at elementary level. It allowed students who completed Grade 4 to study independently using printed modular materials provided by the government. The involvement of parents and community as a learning resource in the learning process was encouraged. Aside from that, the distance education system was used in the elementary level long before, known as the A-Package Program.

The success of the *PAMOMG* system encouraged the government to establish Open Junior High Schools to provide educational opportunity for students unable to attend regular secondary education. The idea of the open junior high school was established in 1977, and in 1979 its pilot project was launched (Siahaan, 1999). These open junior high schools are intended for elementary school graduates who cannot attend regular schools because of economic factors as well as geographical and social factors. The system has been designed to provide flexibility to the students. Open junior high schools can reach students who live in rural as well as urban areas. This system provides the possibility for the use of teaching and learning resources effectively in each region, including school facilities, human resources, and other learning resources.

The establishment of universal elementary education and mandatory of nine-year compulsory education by the government in 1994, brought a positive response toward the implementation of distance education in elementary and secondary levels. Open junior high schools have become the rational choice to support the implementation of the 9nine-year compulsory education. This improves access and opportunity to attend secondary education without scarifying the quality of learning (Pustekkom, 1999). Being an

integrated part of the national education system for elementary and secondary level, the open junior high schools use modules supported by audio visual such as audio cassettes, radio programs, slide and video programs, and TV programs, and the same curriculum and evaluation criteria as the traditional junior high schools. Tutorial support is given by the *Guru Bina* (Subject Teacher) and the *Guru Pamong* (Facilitator Teacher). The open junior high school students spend at least three hours a day to study independently at the nearest school or public facility nearby their homes. Once a week, *Guru Bina* arranges meetings with the open junior high school students at the school where they teach regularly.

The open junior high has been the first formal educational institution implementing distance-learning system at secondary level. This school was established in response to the booming number of elementary graduates in the 1970s. The phenomena happened because there was huge number of *Sekolah Dasar Inpres;* these are elementary schools that were built under the President's Decree. In the seventies, the illiteracy rate was high, while chances to get education were limited. The situation forced the President to take action by building a lot of elementary schools and with the decree stated every child who reached the age of seven, had to attend primary school. As a result, there were about 2,546,000 students graduating from elementary schools in the middle of the 1970s. This created a new problem in giving a chance to every citizen to attend junior high schools, in which the existing schools could only accept 71.1% of the primary school graduates (Pustekkom, 1999). The Government did not have enough financial means to cover all the expenses needed to provide classrooms, school facilities, and teaching staff. Hence, the open junior high school system was established to overcome this problem.

The open junior high schools use the available facilities; therefore, each of the open junior high schools uses building and teachers of the nearby public junior high school. This school is called Base Secondary School. Every open junior high school has several learning centres. The principal of the open junior high school is the principal of the Base School; this goes also to the Vice Principal. Structurally, the open junior high school also has *guru binas*, *guru pamongs*, special *guru pamongs*, guidance counsellors, and administration staff. The *guru binas*, guidance counsellors, and administration staffs are recruited from the Base School, whereas the *guru pamongs* are taken from elementary school teachers or the community leaders who help the *guru binas* in conducting learning-teaching process at the learning centre. Special *guru pamongs* are people in the community with specific abilities, skills, or knowledge considered useful for the students. The schools have been considered successful. In 1999, the number of open junior high schools all over the country reached 3,773 locations with 9,721 learning centres (Almunawar, 1999).

Distance education is also used in the religious education context by opening *Madrasah Tsanawiyah* Terbuka (Islamic-based open junior high schools). These schools provide education for the *santri* (students of Moslem boarding schools). The system allows students to study religion as well as general knowledge through the *Madrasah* by using learning resource and local community leaders as the facilitators. Statistics show that there are about 8,991 *pondok pesantren* with almost 2 million students (*santris*). About 70% of the *santris* are at the age of 13-15 years old (Pustekkom, 1999).

The innovation in the use of distance education for senior high school level was introduced in 1999 (Ibrahim, 2003). The open senior high school is considered as an

alternative for the junior high school graduates who cannot be accepted in the regular high school system. The initial program of the open senior high school began in 2002 in seven public senior schools in various locations (Ibrahim, 2003). The effectiveness of open senior high school is still being evaluated, even though experiences of other countries show that this system can be effectively implemented for students who live in remote areas and geographically unable to reach regular high schools.

Besides the open junior and senior high schools, there are also the A-Package, B-Package and C-Package Programs, known in Indonesian language as *Paket A, Paket B* and *Paket C,* using distance education system. The B-Package program is the continuity of the A-Package and has been implemented long before the open junior high school system was started. Meanwhile, the C-Package Program – the continuity of B-Package Program – has been more recently introduced, using the distance education system. *Paket A* is intended for primary school level of education, *Paket B* for junior secondary school level of education, and *Paket C* for senior high school level of education.As shown in Table 1, the characteristics of the *Paket A, Paket B* and *Paket C* share similarities and differences in terms of aim, duration, target audience, level, use of resources and participation of the community in these programs.

Table 1

Characteristics of the *Paket A, Paket B* and *Paket C* Programs

Characteristics of programs	**Package A**	**Package B**	**Package C**
Aim	▪ To accommodate dropouts from primary schools ▪ To provide literacy programs for the community ▪ To help achieve universal primary education/compulsory education	▪ To accommodate dropouts from junior secondary schools ▪ To provide literacy programs for the community ▪ To help achieve universal junior secondary education/compulsory education	▪ To accommodate dropouts from senior secondary schools ▪ To provide literacy programs for the community ▪ To help improve access to senior secondary primary education
Duration	▪ Varies, depending on the available time of the students	▪ Varies, depending on the available time of the students	▪ Varies, depending on the available time of the students
Completion rates	▪ High completion rates	▪ High completion rates	▪ High completion rates
Level and target audience	▪ Primary education	▪ Junior secondary education	▪ Senior secondary education
Use of resources	▪ Teachers from existing conventional schools or local community leaders ▪ Buildings from existing conventional schools or local public facilities leaders ▪ Finance subsidised by the government	▪ Teachers from existing conventional schools or local community leaders ▪ Buildings from existing conventional schools or local public facilities leaders ▪ Finance subsidised by the government	▪ Teachers from existing conventional schools or local community leaders ▪ Buildings from existing conventional schools or local public facilities leaders ▪ Finance subsidised by the government
Participation of the community	▪ Active participation of the community	▪ Active participation of the community	▪ Active participation of the community
Starting of the program	▪ Since the late 1960s	▪ Since the 1980s	▪ Since the 2000s

2. Distance education in higher education. At the higher education level, the Directorate General of Higher Education (DGHE) began to use satellite as the media for distance education programs in 1980, called the *Sisdiksat* or the satellite-based education system, to enhance the quality of education, especially in the eastern part of Indonesia. It was hoped that *Sisdiksat* could overcome the lack of teachers and learning materials in provinces on the islands of Kalimantan, Sulawesi, Maluku and Papua. The system involved the use of the satellite and tele-blackboard so that the instructor in the Directorate General of Higher Education could interact with other instructors or students all over the institutes in Eastern Indonesia. Following the launching, the satellite education system was also used by UT for tutoring distance students in Eastern Indonesia. In 1981, the DGHE implemented the Diploma II at a distance for in-service junior high school teachers. This program was aimed for upgrading underqualified teachers. The teachers who had been teaching for at least three years needed to get further training because their previous education was very limited. The problem was there were no substitute teachers if they should leave the schools to continue their study on campus.

In 1982, the DGHE implemented distance education for university lecturers, called the *Akta V*. This program was to improve the teaching ability of junior university lecturers. These experiences further encouraged the government to establish the UT, on the 4th of September, 1984, to provide higher education opportunities for in-service teachers, working adults and high school graduates. UT has attempted to improve the qualifications and competencies of teachers and other professional through the Diploma, Bachelor as well as Master programs. In its earlier development UT also offered programs to improve the competencies of junior lecturers in universities through the *Akta V* program. UT has been a significant innovation in the history of Indonesian higher education, and it deserves further in-depth discussion in other parts of this paper.

3. Distance education in nonformal and continuing professional education. Distance education has been used beyond the formal education sector, such as in agricultural extension and family planning education. It has also been used for vocational on-the-job training, such as in the banking sector, public sector as well as other corporate sectors. A variety of programs for nonformal and continuing professional education have been offered at a distance, such as community development programs, personal development programs, and vocational programs. These programs provide the community with the opportunity to continuously improve their knowledge, skills and abilities in the profession.

For Indonesia, the number of public and private institutions engaged in the use of distance education for nonformal education has increased over time. Government institutions involved in the use of distance education for nonformal education include such departments as Religious Affairs, Labour, Home Affairs, Agriculture, and Health. The private sectors and the state enterprise using distance education for professional development include organisations such as banking industry, retail industry, post and telecommunication, and so forth.

The history of Universitas Terbuka as innovation in Indonesian higher education

Indonesia is challenged to provide quality higher education for a very large number of its citizens. However, public resources for the higher education sector have not increased at a comparable level with the increase of enrolments, because of the strong demands on public resources from other sectors of education as well as from other sectors of public services. Indonesia had to look for distance education as an alternative to provide accessible university education, and to increase the participation rate in higher education. The development of human resources has been a major challenge for Indonesia. In the 1970s, secondary school teachers were trained through crash programs, which led to the production of under qualified teachers. So in the 1980s, there was a felt need to upgrade their skills and expertise. The government saw no other means of effective retraining apart from using distance education.

Another urgent problem was the ever-increasing number of senior high school graduates who could not gain places in state higher education institutions, while the government had been campaigning for equality of opportunity and access to development in various sectors, including education. Additionally, there were many working adults who had never had an opportunity for tertiary training.

On the fourth of September 1984, the Universitas Terbuka was established with four Faculties, i.e., Economics, Social and Political Science, Teacher Training and Educational Science, and Mathematics and Natural Science. Since its inception, UT has been involved in in-service teacher education. The scale of this kind of training has significantly increased since the early 1990s, when the UT became responsible for the two-year Diploma II program for in-service elementary school teachers. This program is intended to improve the qualification of in-service primary school teachers. UT is also responsible for in-service training at a distance for secondary school teachers. During the first 20 years of its existence, UT has accommodated 1,095.440 students, and graduated 596,410 alumni working in various fields of the profession. Currently, UT enrols approximately 205,300 students, studying various subjects in 35 different programs. UT students use self-instructional material and their learning process is supported by a network of 35 regional centres, 1,753 tutorial locations, and 671 examination locations throughout the country.

During the past four years, UT has continuously attempted to improve the quality of its academic services in terms of the course content, course materials, learning support, and assessment of student learning. To update and improve the quality of the course, each year UT has revised and produced more than 150 course materials. As a result, currently 75% of the UT course materials are less than 5 years old. It is expected that all UT course materials should have been revised and thus have 5 years of age by 2005. UT has also attempted to improve the quality of non-print learning materials, including audio, video, computer-based and web-based programs. The audio and video programs are distributed to students in audiocassette and CD formats, local and national radio broadcast, and in television broadcast via Q-Channel TV, a private cable television network. Up to this date, UT has produced more than 3,000 audio/radio programs, more than 600 video/television programs, and 110 computer-based programs.

Student learning support is provided to facilitate student learning through such services as tutorials, counselling, study groups and administrative services. A number of

tutorial methods have been implemented, namely face-to-face, correspondence, broadcast, and fax-internet tutorials. Online tutorials have been developed as a means of communication between tutors and students to assist students' learning and to provide counselling services. Online services provide such information as academic administration, learning materials and supplementary materials. Student learning support is also parts of the continuous improvement effort in terms of quality and quantity. The UT currently provides learning support for students through face-to-face tutorials and counselling, as well mediated tutorials and counselling via correspondence, telephone, facsimile, and internet. UT has achieved significant progress in the provision of learner support through the use of information and communication technology, which involves a specifically designed portal called *UT Online* for individual use by our distance students. Through access to the *UT Online*, students may participate in online tutorial, review supplementary and video materials relevant to the courses they are taking, download independent assignments, views examination results, observes academic progress, and obtains other administrative services. The use of online academic services via the internet is fully integrated into the student record system.

In terms of the assessment of student learning, for the past three years UT has attempted to establish a computerised item banking system. Using this system, examination materials can be prepared more timely and accurately thanks to the assurance and availability of standardised test items. Until August 2004, the UT computerised item banking system has a collection of 4,169 test sets for 565 courses out of 733 courses. All collection of the test sets for all UT courses are targeted to be stored into the computerised item banking system by the end of 2005. Furthermore, in order to speed up the delivery of examination results, UT students now have access to the examination results through the UT Online portal, SMS via mobile telephone, and cable telephone. UT is one of the five leading higher education institutions in Indonesia which provides services via SMS.

The UT continuously responds to the needs of its clients so that its programs and services adapt to the dynamically changing needs of the society. For instance, UT has launched graduate programs by combining multimedia teaching-learning packages and applying online technology for distance learning, besides the regular tutorial program and individual learning activities. Now, the UT has 156 courses with multi-media materials, and provides online tutorials for 171 courses (UT, 2003). However, there are handicaps in using the online system related to cost, accessibility, and the students' ability in using the technology. The use of ICT for management and instruction continuously increases in line with improved access by the student. Access and students' initiations in electronic tutorials at UT remains a major obstacle, even though such online services are at no cost for students, except for the cost of internet connection to be paid by students using the service. Access to the internet is a major problem for many UT students who reside in remote and rural areas and for those who come from the lower economic level. Print remains the major learning resource for UT students, and other media, such as audio-visual media and television, should be able to provide the needed intellectual enrichment for students learning at a distance on their own.

The UT distance education system provides benefit to existing higher education institutions in Indonesia through mutual collaboration between the UT and other state universities. The UT collaborates with other universities in developing the curriculum,

writing the teaching-learning materials, developing the test items, and providing tutorials to the students. Lecturers of other universities involved with the UT get new perspectives and experiences in designing and developing the curriculum, writing modules and test items systematically. Experiences are easily be transferred for teaching learning process in their institutions, and can help improve the lecturers' skills in designing instruction in their own institutions. In addition, the UT has become the biggest publisher of the teaching learning materials for university level in Indonesia by providing more than 900 titles in each subject offered, and this cannot be done by other universities in Indonesia.

UT is part of the government effort to improve the quality of national human resources to support sustainable development. The existence of UT has been intended as an alternative route to university education and as complementary to the existing higher education system. UT students opt for distance learning because they have work commitment, reside in locations where there is no access to conventional universities, and they need to have flexibility and freedom from the strict schedules required in classroom-based learning of conventional universities.

By design, UT employs management and operations system which involve networking with participating institutions, comprising the central office and its 35 regional centres for academic as well administrative services for students in their respective regions; with the state universities for curriculum, course material and test item development; with the Post Office for the distribution of course materials; with Bank Rakyat Indonesia, a major government-owned Bank, for the payment of fees; with the television, radio broadcasting and media network for communication and interaction with a very large number of students throughout the country; with regional and state university libraries for access to additional learning resources. This diverse network requires effective coordination and good communication between the central office, regional centres, and the participating institutions. Effective management is needed through accurate planning, effective networking and partnership, efficient development of quality programs, and timely distribution of course materials.

In terms of quality improvement, starting in 2001, the UT has designed, developed and implemented a systematic approach to quality assurance (UT, 2002). Using the total quality approach, the UT quality assurance system comprises quality programs and comprehensive documentation of work activities in over 190 work manuals for use by staff and management at all levels. Quality assurance is under the direct command of the Rector and Vice Rectors, and its daily operation is managed by the Quality Assurance Centre. The UT quality assurance system requires work activities performed by staff and management to comply with the work manuals. The work process is well guided to ensure quality output of work activities in virtually all aspects of the management and operations of the distance education provision. The UT quality assurance system has been adopted from the draft developed by the Asian Association of Open Universities (AAOU), which includes nine components, i.e., (1) policy and planning, (2) human resource provision and development, (3) management and administration, (4) learners, (5) programme design and development, (6) course design and development, (7) learner support, (8) learner assessment, and (9) media for learning.

The UT has to consistently implement continuous improvement principles to ensure that its programs and services satisfy the needs of its students and stakeholders. Internal quality assurance system has to be improved continuously through periodic

quality audit. External assessment has to be done involving external parties, such as national and international accreditation agencies, to ensure that the UT programs and services meet acceptable quality criteria set by national and international accreditation bodies. Programs and services offered by UT have to comply with particular criteria set internally and externally. Staff and management should be made aware of this continuous process and ensure that they take concrete actions for improvement.

The challenge for UT is to provide quality university education accessible by students with different levels of economic capacity, access to information and communication facilities, and inadequate ICT literacy. To respond to this challenge, UT needs to prioritise its effort and focuses on three areas of development, i.e., academic quality, student participation and accessibility, and internal management. Improving the academic quality of UT should concentrate on programs and curriculum, students and graduates, learning support services, course materials, evaluation of student learning, and research and community service. Increasing student participation and widening accessibility is targeted on maintaining existing students and implementing proactive recruitment of potential students. Effective internal management system should involve effective implementation of system and procedures, transparent financial management, and effective utilization of human resources (UT, 2004).

Expected trends and challenges of distance education in Indonesia

The use of new technology in distance education in Indonesia has been prompted by advances in ICT. Distance education involves substantial use of media, because of the separation or distance between the students and the teachers or institution. The media used in distance education in Indonesia has evolved over time. In its pioneering years in the 1950s, distance education relied much on correspondence and print materials. The UT uses multi-media materials, incorporating print and non print materials, even though most of the materials still rely on the print material.

The geographic and demographic conditions of Indonesia have encouraged the use of technology intensively, even though such use is still limited due to access and literacy level of the users. During the 1990s, the development and application of new technology has been pioneered with the development of academic information infrastructure (Purbo, Soegijoko, Ahmad & Merati, 1998). Then, during the beginning of this decade, further innovations in the use of technology has involved the use of web-based instruction to facilitate learning, create computer-aided learning environment, and the use of television programs and live broadcast television using the satellite for university lecturers in Indonesia (Belawati, 2000; Padmo, Huda & Belawati, 2000; Suradijono, Nazief, Subagdja & Moningka, 2000). The application of technology in distance education has further flourished with further exploration and application of internet-based instruction and management system, pioneered by UT and some selected higher education institutions (Anggoro, Hardhono, Belawati & Damayanti, 2001; Andriani, et al., 2003; Anggoro, 2004).

For an island nation as large as Indonesia, with a large scale application of distance education, it is natural that Indonesia has a formal and string network of organisation, i.e., Indonesian Distance Learning Network, incorporating both public and privates organisations with stakes in distance education. Human resources are the main

asset of any distance education organisation. Human resources play leading roles in innovations and ensuring the sustainability of the distance education endeavour. Distance education institutions have to put high priorities on the development of the human resources in terms of knowledge, skills, competencies, and qualifications. For Indonesia, one of the most recent developments in terms of human resources in distance education has been the establishment of Professional Association of Indonesian Distance Education in March 2004. This professional association is expected to play key roles in the development of professional human resources in distance education in Indonesia.

Conclusions

Distance education in Indonesia has developed to respond to the challenge of improving access to quality education for the citizens. Distance education has been used in formal as well as nonformal education and training sectors. Distance education has a strategic role in responding to the dynamic changing educational needs of the society, in relation to the creating of a knowledge-based society. It is a growing area of educational enterprise, with the growing number of institutions and students. Focus on learners should become an important strategy for the sustainability of a distance education institution. In the distance education context, focusing on learners means understanding issues such as what they need to learn, how they learn, what sort of learning support they need, how much time they spend for learning, what media they use, and what learning styles they have. Education clients in general are today better educated because of the sheer of information available and the relatively easy access to different kinds of information. Clients have become increasingly more critical of services provided by distance education institutions, and they also have greater flexibility in selecting the best services available to suit their needs and circumstances.

Distance education institutions need to address issues related to the dynamically changing needs of the clients, assurance of quality standards, and the use of technology to enrich learning. Distance education institutions are challenged to develop high quality programs efficiently using suitable delivery methods and technology, and to meet the growing demand for lifelong learning accordingly. In order to respond to the needs of the clients, UT needs to deliver quality products and services, improve institutional image and positive perception of the society towards distance education as well as establish networking and partnership with other institutions and organisations. Distance education is an important solution for accelerating development of education sector, and UT should be able to play a key role as a pioneering distance higher education institution to assist in improving the quality of human resources needed for sustainable development.

Finally, technology seems to be a powerful tool to deliver distance education services, and the challenge is to orient, train, and educate users to be technologically literate and able to make use of it in their learning endeavour. It is important to note that the use of new technology should be able to help distance students learn. Joint effort is needed among stakeholders, as sharing new knowledge and experience using new technology is an expensive endeavour, involving the acquisition of the hardware and software as well as changing mindset of the brainware. Quality distance education needs technology accessible by its learners. Partnership between stakeholders and students with

the industry and ICT providers should enhance the development of distance education and improves not only access and opportunity but also the quality of provision.

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